APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/430,297	10/29/1999	MARK SCOTT	1848.0040000	7056

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EXAMINER
WILSON, ROBERT W

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/430,297	SCOTT, MARK
	Examiner	Art Unit
	Robert W Wilson	2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 October 1999* .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☒ Claim(s) *5* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____ .

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
2)☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5)☐ Notice of Informal Patent Application (PTO-152)
3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *7* .   6)☐ Other: .

DETAILED ACTION

1.0 The application of Mark Scott for a "SYSTEM, METHOD AND COMPUTER

PROGRAM PRODUCT FOR POINT-TO-POINT BANDWIDTH CONSERVATION IN AN IP

NETWORK" filed on October 29, 1999 was examined. **Nine documents specified in the first**

IDS received March 20, 2000 were not in the case file (Six of the 9 documents were about

Clarent Products). The examiner requests that the applicant resubmit these documents if

the applicant considers these documents essential or desires the documents to be

considered. All of the documents associated with the second IDS received August 21, 2001

were received and were in the case file so these documents do not need to be resubmitted.

Claims 1-17 are pending.

Drawings

2.0 The drawings in this application are objected to by the Draftsperson as informal. Any

drawing corrections requested, but not made in the prior application should be repeated in this

application if such changes are still desired. If the drawings were changed and approved during

the prosecution of the prior application, a petition may be filed under 37 CFR 1.182 requesting

the transfer of such drawings, provided the parent application has been abandoned. However, a

copy of the drawings as originally filed must be included in the 37 CFR 1.60 application papers

to indicate the original content.

Foreign Priority

3.0 Foreign Priority was not claimed.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4.0   Claim 16-17 are rejected under 35 U.S.C. 112, first paragraph, as being indefinite for failing to particularly point out how to distinctly make the invention.

Referring to Claim 16, the applicant does not clearly specify how the system is "configurable to tradeoff between increase tolerance to loss and bandwidth"? Does the applicant mean that software automatically varies number of redundant frame sent versus throughput? Where is this limitation specified in the disclosure?

Claims 4 and 16-17 are rejected based upon 112 first paragraph does not point out how to distinctly make the invention.

Referring to Claims 4 and 16, How is the system "configurable to tradeoff between increase tolerance to loss and bandwidth"?

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.0   Claims 5 and 16-17 are rejected based upon 112 second paragraph because the metes and bounds of the claim cannot be assessed.

Referring to Claim 5 and 16, What is meant by" regenerating missing or damaged data in a data packet"? How can the data be regenerated before it has been sent?

Claims 4 and 16-17 are rejected based upon 112 second paragraph because the metes and

bounds of the claim cannot be assessed.

Referring to Claims 4 and 16, What is meant by the system is meant by "configurable to

tradeoff between increase tolerance to loss and bandwidth"?

Claim Objections

6.0   Claim 5 is objected to because of the following informalities: Why does the numbering

of limitations include 1 and 3 but not 2. Is two missing? Please amend the claim to either add

the missing limitation or renumber the limitations to 1 and 2 respectively. Appropriate

correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.0   Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg

(U.S. Patent No: 6,389,038 with provisional application date of January 26, 1999) in view of

Quarni (U.S. Patent No.: 6,438,105B1 dated February 8, 1999).

Referring to Claim 1, Goldberg teaches: reducing overhead (reduce header information
per Abstract); latency (latency per Abstract); voice and data over Internet Protocol (VoIP) data
packet (Fig 4); transmitting between originating and destination gateways in an Internet
telephony system (Fig 4) ;

Compressing data streams (col 4 line 23) from a plurality of concurrent calls (30 channel of
concurrent calls per col 4 line 48) into packets (larger packet per col 4 line 48.

The MUX shown in Fig 3-4 performs the compression);

Aggregating packets into the larger packet (larger packet, ie. A Super Packet per col 4 line 45);

Transmitting data packets between originating and destination through a single virtual connection (Fig 4 shows Super Packets flowing over virtual connections between the MUXes 230a and 230b respectively. The MUXes can be integrated into the router and Gateway per col 7 lines 33-41; therefore, the virtual connections would be between the gateways shown in Fig 4);

Controlling transmission between originating and destination gateway by defining the format of the packets (Fig 4 shows originating and destination gateway. Defining packet format per col 4 line 44-col 5 line 32 and synchronizing header info per col 4 line 44-col 5 line 32);

In Addition:

Aggregating packets into data packets (SuperPacket per col 4 line 45); comprising at least one header frame or UDP per Fig 1 and comprising at least two header frames or version (Fig 1) and channel (col 4 line 54) as claimed in Claim 2.

Converting analog to digital prior to compressing (Fig 4 shows PSTN Gateway or analog into the VoIP Gateway wit VoIP packet coming out; therefore, converting analog to digital) as claimed in Claim 3.

Transmitting a check sequence data packet at regular packet intervals (UDP checksum per Fig 1) as claimed in Claim 4.

Goldberg does not particularly call for: loss in a voice and data but teaches UDP per Fig 1 or col 3 lines 10-15.

Quarni teaches: handling loss of data in a UDP data environment per col 1 line 5-col 3 line 25) and Internet Telephony per col 4 line 51.

It would be obvious to one of ordinary skill in the art at the time of the invention to add the handling of loss of Quarni to the VoIP Gateway system of Goldberg because they both are utilizing UDP protocol.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
manner in which the invention was made.

8.0   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quarni (U.S.

Patent No.: 6,438,105B1 dated February 8, 1999) in view of Goldberg (U.S. Patent No:

6,389,038 with provisional application date of January 26, 1999)

     Referring to Claim 5, Quarni teaches: regenerating missing or damaged data packet
transmitted (FACs data using UDP protocol over an IP network per Fig 1. Error correction and
retransmission of packets per Abstract. Also Internet Telephony is taught per col 4 line 51. It
would be obvious to one of ordinary skill in the art at the time of the invention to utilize the error
correction of Quarni in an Internet Telephony system because deficiencies to UDP protocol are
being resolved that are also common problems in the Internet Telephony because UDP is also
used)
     Transmitting a check sequence after every third data packet (Frame check sequence
trailer are shown in Figure 10 around four packets, 44A-44D, as well as having a frame check
sequence trailer at the end of each packet. It would be obvious to one of ordinary skill in the art
at the time of the invention to have a frame check sequence associated with three packets instead
of four packets.)
     Using a parity system to regenerate the missing or damaged data (error correction
through retransmission of packets per Abstract or col 10 line 58-col 11 line 7).

     Quarni does not particularly call for: reducing packet overhead but teaches frame check
sequence and also teaches a method of correcting errors through the retransmission of packets.
     Goldberg teaches reducing packet overhead per Abstract.
     It would be obvious to one of ordinary skill in the art at the time of the invention to add
the reduction of packet overhead of Goldberg to the retransmission of packets of Quarni in
systems that utilize UDP in order to build a system that sends a frame sequence after every third
packet.

Claim Rejections - 35 USC § 103

     The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
such that the subject matter as a whole would have been obvious at the time the invention was made to a person
having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
manner in which the invention was made.

9.0   Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg

(U.S. Patent No: 6,389,038 with provisional application date of January 26, 1999) in view of

Quarni (U.S. Patent No.: 6,438,105B1 dated February 8, 1999).

Referring to Claim 6, Goldberg teaches: reducing overhead (reduce header information
per Abstract) voice and data over Internet Protocol (VoIP) data packet (Fig 4); transmitting over
UDP connectionless protocol (col 3 lines 10-17) between originating and destination gateways
in an Internet telephony system (Fig 4) ;

Media framing means for aggregating packets from a plurality of concurrent calls from a
plurality of channels into the larger packet (The MUX shown in Fig 3 and 4 performs
compression or aggregating of plurality of concurrent calls or channels by compressing data
streams per col 4 line 23 from a plurality of concurrent calls; such as, 30 channel of concurrent
calls per col 4 line 48 into larger packets per col 4 line 48. The MUXes can be integrated into the
router and Gateway per col 7 lines 33-41)

Transmission control means for defining the format for the data packet and updating and
synchronizing header information in the data packet (Fig 4 shows originating and destination
gateway. Defining packet format per col 4 line 44-col 5 line 32 and synchronizing header info
per col 4 line 44-col 5 line 32);

Single virtual connecting means for transmitting the data packet from the originating gateway to
the destination gateway (Fig 4 shows Super Packets flowing over virtual connections between
the MUXes 230a and 230b respectively. The MUXes can be integrated into the router and
Gateway per col 7 lines 33-41; therefore, the virtual connections would be between the gateways
shown in Fig 4);

In Addition:

Aggregating packets into data packets (SuperPacket per col 4 line 45); comprising at least
one header frame or UDP per Fig 1 and comprising at least two header frames or version (Fig 1)
and channel (col 4 line 54) as claimed in Claim 7.

Goldberg does not particularly call for: redundancy means for regenerating missing or
damaged data in the data packet but teaches UDP per Fig 1 or col 3 lines 10-15.

Quarni teaches: redundancy means for regenerating missing or damaged data in the data packet per Abstract in a UDP data environment per col 1 line 5-col 3 line 25) and Internet Telephony per col 4 line 51.

In Addition:

Means for transmitting a check sequence data packet after every third transmission (Frame check sequence trailers are shown in Figure 10 around four packets, 44A-44D, as well as having a frame check sequence trailer at the end of each packet. It would be obvious to one of ordinary skill in the art at the time of the invention to have a frame check sequence associated with three packets instead of four packets. Also Goldberg taught header compression previously so it would be obvious to only utilize Frame Check sequence after every third packet) as claimed in Claim 8

Check sequence data packet is formatted to regenerate missing or damaged data with information located inside check sequence data packet and use a parity system to regenerate missing or damaged data (The frames are checked via FCS and sequence numbers are also checked to see if an error has occurred or that the frames are damaged or missing if they are damaged or missing then the frames are resent per col 2 line 28-col 3 line 25) as claimed in Claim 9.

It would be obvious to one of ordinary skill in the art at the time of the invention to add the redundancy means for regenerating missing or damaged data in the data packet of Quarni to the VoIP Gateway system of Goldberg because they both are utilizing UDP protocol.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11.0   Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quarni (U.S.

Patent No.: 6,438,105B1 dated February 8, 1999) in view of Goldberg (U.S. Patent No:

6,389,038 with provisional application date of January 26, 1999)

Referring to Claim 10, Quarni teaches: Internet Telephony system (col 4 line 51);

Redundancy means for transmitting a check sequence data packet every third packet (Frame check sequence trailer are shown in Figure 10 around four packets, 44A-44D, as well as having a frame check sequence trailer at the end of each packet. It would be obvious to one of ordinary skill in the art at the time of the invention to have a frame check sequence associated with three packets instead of four packets.)

Means for regenerating missing or damaged data with information located inside check sequence data packet(The frames are checked via FCS as well as associated sequence numbers and if the sequence number is missing or FCS analysis detects an error then the frame is retransmitted per col 2 line 28-col 3 line 25)

In Addition:

Parity system (col 10 lines 59-col 11 line 70) as claimed in **Claim 11.**

Quarni does not particularly call for: reducing packet overhead but teaches frame-check sequence and also teaches a method of correcting errors through the retransmission of packets.
Goldberg teaches reducing packet overhead per Abstract.
It would be obvious to one of ordinary skill in the art at the time of the invention to add the reduction of packet overhead of Goldberg to the retransmission of packets of Quarni in systems that utilize UDP in order to build a system that sends a frame sequence after every third packet.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12.0   Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg

(U.S. Patent No: 6,389,038 with provisional application date of January 26, 1999) in view of

Quarni (U.S. Patent No.: 6,438,105B1 dated February 8, 1999).

Referring to Claim 12, Goldberg teaches: reducing overhead (reduce header information per Abstract); latency (latency per Abstract); voice and data over Internet Protocol (VoIP) data packet (Fig 4); transmitting between originating and destination gateways in an Internet telephony system (Fig 4) ;

A first computer program product means for compressing the data streams (col 4 line 23) from a plurality of concurrent calls (30 channel of concurrent calls per col 4 line 48) into packets (larger packet per col 4 line 48. The MUX shown in Fig 3-4 performs the compression. The MUX is a computer per col 6 line 41-col 7 line 70; therefore it would be obvious that this function is performed by a computer program product);

A second computer program product means for aggregating packets into the larger packet (larger packet, ie. A Super Packet per col 4 line 45. The MUX shown in Fig 3-4 performs the aggregation. The MUX is a computer per col 6 line 41-col 7 line 70; therefore it would be obvious that this function is performed by a computer program product);

A third computer program product means for transmitting data packets between originating and destination through a single virtual connection (Fig 4 shows Super Packets flowing over virtual connections between the MUXes 230a and 230b respectively. The MUXes can be integrated into the router and Gateway per col 7 lines 33-41; therefore, the virtual connections would be between the gateways shown in Fig 4. The MUX shown in Fig 3-4 forms the Super Packets. The MUX is a computer per col 6 line 41-col 7 line 70; therefore it would be obvious that this function is performed by a computer program product);

A fourth computer program product means for controlling transmission between originating and destination gateway by defining the format of the packets and updating and synchronizing header information in the data packets (Fig 4 shows originating and destination gateway. Defining packet format per col 4 line 44-col 5 line 32 and synchronizing header info per col 4 line 44-col 5 line 32. The MUXes can be integrated into the router and Gateway per col 7 lines 33-41. The MUXes perform these functions. The MUX is a computer per col 6 line 41-col 7 line 70; therefore it would be obvious that this function is performed by a computer program product);

In Addition:

The computer program product wherein the second computer program product provides a means for further aggregating packets into data packets (SuperPacket per col 4 line 45. The MUX performs these function and a computer; therefore these functions are performed as a computer program product); comprising at least one header frame or UDP per Fig 1 and comprising at least two header frames or version (Fig 1) and channel (col 4 line 54) as claimed in **Claim 13**

The computer program product wherein the first computer program product means for converting analog to digital prior to compressing (Fig 4 shows PSTN Gateway or analog into the VoIP Gateway with VoIP packet coming out; therefore, converting analog to digital. The MUX is a computer which can be integrated into the router and gateway; therefore, it would be obvious to one of ordinary skill in the art at the time of the invention that these functions are performed in a computer program product) as claimed in Claim 14.

Goldberg does not particularly call for: a fifth computer program product means for determining if the data packets contain missing or damaged data and regenerating said missing or damaged data in the data packets but teaches UDP per Fig 1 or col 3 lines 10-15.

Quarni teaches: a fifth computer program product means for determining if the data packets contain missing or damaged data and regenerating said missing or damaged data in the data packets (FACs data using UDP protocol over an IP network per Fig 1. Error correction and retransmission of packets per Abstract. Also Internet Telephony is taught per col 4 line 51. It would be obvious to one of ordinary skill in the art at the time of the invention to utilize the error correction of Quarni in an Internet Telephony system because deficiencies to UDP protocol are being resolved that are also common problems in the Internet Telephony because UDP is also used. The error detection and error correction algorithms utilize the protocol UDP which is utilized in computer communication; therefore, it would be obvious to one of ordinary skill in the art at the time of the invention that these algorithms could be implemented in hardware and software as a computer program product.) in a UDP data environment per col 1 line 5-col 3 line 25) and Internet Telephony per col 4 line 51.

In Addition:

The Computer Program Product wherein the firth computer program product means further comprises computer program product means for transmitting a check sequence after every third data packet (Frame check sequence trailer are shown in Figure 10 around four packets, 44A-44D, as well as having a frame check sequence trailer at the end of each packet. It would be obvious to one of ordinary skill in the art at the time of the invention to have a frame check sequence associated with three packets instead of four packets. , it would be obvious to one of ordinary skill in the art at the time of the invention that these algorithms could be implemented in hardware and software as a computer program product) Using a parity system to regenerate the missing or damaged data (error correction through retransmission of packets per Abstract or col 10 line 58-col 11 line 7. , it would be obvious to one of ordinary skill in the art at the time of the invention that these algorithms could be implemented in hardware and software as a computer program product) as claimed in Claim 15.

It would be obvious to one of ordinary skill in the art at the time of the invention to add the handling of loss of Quarni to the VoIP Gateway system of Goldberg because they both are utilizing UDP protocol.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13.0   Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Goldberg (U.S. Patent No: 6,389,038 with provisional application date of January 26, 1999) in

view of Quarni (U.S. Patent No.: 6,438,105B1 dated February 8, 1999) further in view of

Borella (U.S. Patent No.: 6,434,606B1 dated August 13, 2002)

Referring to Claim 16, Goldberg teaches: A computer program product comprising a computer useable medium having computer program logic recorded thereon for enabling originating and destination gateways to transmit or receive data streams or data packets in an Internet telephony system (Fig 4 shows transmitting between originating and destination gateways in an Internet telephony system. An integrated MUX/Router/Gateway performs this function. The MUX is a computer per col 6 line 41-col 7 line 70; therefore it would be obvious that these functions are performed by a computer program product); In addition Goldberg teaches reducing packet overhead per Abstract.

Goldberg does not particularly call for: configurable to tradeoff between increased tolerance to loss and bandwidth and a second computer program product means for regenerating missing or damaged data in the packet comprising; a first computer program product means for transmitting a check sequence data packet at regular packet intervals, configurable to tradeoff between increased tolerance to loss and bandwidth; and a second computer program product means for regenerating the missing or damaged data by using information located inside of said check sequence data packet

Quarni teaches: a second computer program product means for regenerating missing or damaged data in the data packet (Abstract); a first computer program product means for transmitting a check sequence data packet at regular packet intervals, configurable to tradeoff between increased tolerance to loss and bandwidth (FACs data using UDP protocol over an IP network per Fig 1. Error correction and retransmission of packets per Abstract. Also Internet Telephony is taught per col 4 line 51. It would be obvious to utilize the error correction of Quarni in an Internet Telephony system because deficiencies to UDP protocol are being resolved that are also common problems in the Internet Telephony because UDP is also used. It would also be an obvious to one of ordinary skill in the art at the time of the invention that increasing the amount of error correction increases the packet overhead and therefore lessens the bandwidth according to the teaching of Goldberg. Consequently it would be obvious to one of ordinary skill in the art to adjust the amount of packet overhead versus the amount of error correction in order to optimize the tradeoff between throughput and loss tolerance. It would be obvious to one of ordinary skill in the art at the time of the invention that these algorithms which utilize UDP protocol which is a computer communication protocol could be implemented in hardware and software as a computer program product.)

a second computer program product means for regenerating the missing or damaged data by using information located inside of said check sequence data packet (error correction through retransmission of packets per Abstract or col 10 line 58-col 11 line 7. It would be obvious to one of ordinary skill in the art at the time of the invention that these algorithms which utilize UDP protocol which is a computer communication protocol could be implemented in hardware and software as a computer program product.)

In Addition:

a computer program product comprising a third computer program prdouct means for using a parity system to regenerate the missing or damaged data (col 10 line 59-col 11 line 8 or col 2 line 29-col 3 line 25 or Abstract) as claimed in Claim 17

It would be obvious to one of ordinary skill in the art at the time of the invention to add to the retransmission of packets of Quarni to the reduction of packet overhead of Goldberg in systems that utilize UDP in order to build a system that sends a frame sequence after every third packet.

The combination of Goldberg and Quarni do not particularly call for: configurable to tradeoff between increased tolerance to loss and bandwidth:

Borella teaches: tradeoff between increased tolerance to loss and bandwidth (col 2 lines 3-20)

It would be obvious to one of ordinary skill in the art at the time of the invention to add teaching that there is a tradeoff associated QOS or loss in a real time system between redundancy

of information packeted and bandwidth to the system of the combination of Goldberg and Quarni in order to build a real time system or VoIP system.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hoshi T., et al, "Voice Stream Multiplexing between IP Telephony Gateways", IEICE Transactions on Information and Systems, Vol. E82-D, No. 4, April 1999, pp. 838-845 in which he discloses Voice Stream Multiplexing between IP Telephony Gateways. This reference discloses numerous limitations associated with the application examined.

Schuster et al., U.S. Patent No.: 6,483,600B1 dated Nov. 19, 2002 in which he discloses utilization of redundancy in a UDP environment per Figs 5A-5D respectively. The reference teaches that redundancy is necessary in a fax environment which utilizes UDP col 2 lines 9-14. It would have been obvious to use redundancy for voice which also utilizes UDP to insure against the loss of too many voice packets in order to insure a minimum of quality.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is 703/305-4102. The examiner can normally be reached on M-F (8:00-4:30).
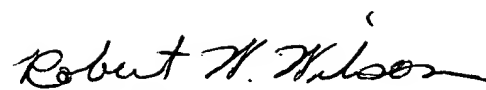
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Robert W Wilson
Examiner
Art Unit 2661

RWW
January 3, 2003

DANG TON
PRIMARY EXAMINER